PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DANIEL G. VAN OLST	10/13/2016
KATHRIN BERKNER	10/21/2016
RAMYA NARASIMHA	10/11/2016

RECEIVING PARTY DATA

Name:	RICOH COMPANY, LTD.	
Street Address:	3-6 NAKAMAGOME	
Internal Address:	1- CHOME, OHTA-KU	
City:	TOKYO	
State/Country:	JAPAN	
Postal Code:	143-8555	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15010620

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	10010-05443 US	
NAME OF SUBMITTER:	PAIGE M. ALSBURY	
SIGNATURE:	/Paige Alsbury/	
DATE SIGNED:	10/25/2016	

Total Attachments: 2

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PATENT 504065592 REEL: 040119 FRAME: 0874

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, the person(s) named below (referred to as "INVENTOR" whether singular or plural) has sold, assigned, and transferred and does hereby sell, assign, and transfer to Ricoh Company, Ltd., a corporation of Japan having a place of business at 3-6 Nakamagome, 1-Chome, Ohta-ku, Tokyo, Japan 143-8555 ("ASSIGNEE"), for itself and its successors, transferees, and assignees, the following:

- 1. The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional application filed under 35 U.S.C. § 111(b), non-provisional application filed under 35 U.S.C. § 111(a), international application filed according to the Patent Cooperation Treaty (PCT), or U.S. national phase application filed under 35 U.S.C. § 371 ("APPLICATION"):
 - Application No. 15/010,620, entitled "Algorithm to Estimate Yaw Errors in Camera Pose," filed on January 29, 2016 which claims priority from a provisional application, filed on September 30, 2015, now bearing US Application No. 62/234, 804.
 - 2. The entire worldwide right, title, and interest in and to:
- (a) the APPLICATION; (b) all applications claiming priority from the APPLICATION; (c) all provisional, utility, divisional, continuation, substitute, renewal, reissue, and other applications related thereto which have been or may be filed in the United States or elsewhere in the world; (d) all patents (including reissues and re-examinations) which may be granted on the applications set forth in (a), (b), and (c) above; and (e) all right of priority in the APPLICATION and in any underlying provisional or foreign application, together with all rights to recover damages for infringement of provisional rights.

INVENTOR agrees that ASSIGNEE may apply for and receive patents for SUBJECT MATTER in ASSIGNEE's own name.

INVENTOR agrees to do the following, when requested, and without further consideration, in order to carry out the intent of this Assignment: (1) execute all oaths, assignments, powers of attorney, applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. INVENTOR further agrees to provide any successor, assign, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not

Case Docket # <u>10010-05443 US</u> 1 of 2

Title: ALGORITHM TO ESTIMATE YAW ERRORS IN CAMERA

POSE

Filed: January 29, 2016

Application No.: 15/010,620

RECORDED: 10/25/2016

hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

INVENTOR grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

Case Docket # <u>10010-05443 US</u> 2 of 2